



Riviera Pool User Manual Control Box

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2 Introduction

This document is written to ensure an easy installation and programming of the Riviera Pool control box.

3 Installation

3.1 Specifications of the Control Box

- Article number: AT-001530 / AT-001531 (CH)
- IP54
- 220-240V 50/60Hz 1.14A
- CE certified
- Serial number: ...

3.2 Unpacking of the Control Box

The control box is packed with all accessories in 1 cardboard box. Mind the weight as the housing of the control box is made of coated steel. Following accessories are included:

- Key for opening/closing the control box
- Connectors for the circuit board
- Glands
- Wall mounting brackets

3.3 Preparation of the Control Box

3.3.1 Wall Mounting Brackets

These brackets are used to mount the control box to the wall. The set consists of:

- 4x M8x12 Hex AISI304
- 4x M8 plastic washers
- 4x brackets AISI304

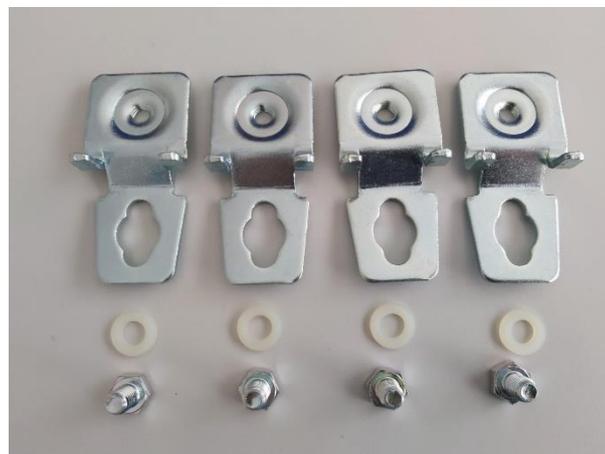


Figure 1 - All items included in the set

Necessary tools for the installation:

- Socket wrench with extension (key width: 13mm)

Check the available space. The wall brackets can be installed both horizontally or vertically (see Appendix A). The screws, washers and plugs are not included in the set.

3.4 Mounting the Control Box

When the preparation is completed, follow the steps below to mount the control box to the wall.

- 1.** Place the control box against the wall using a spirit level and mark the holes
- 2.** Fix the control box in function of the surface type (screw on directly or drill holes and use plugs).

4 Electrical Wiring

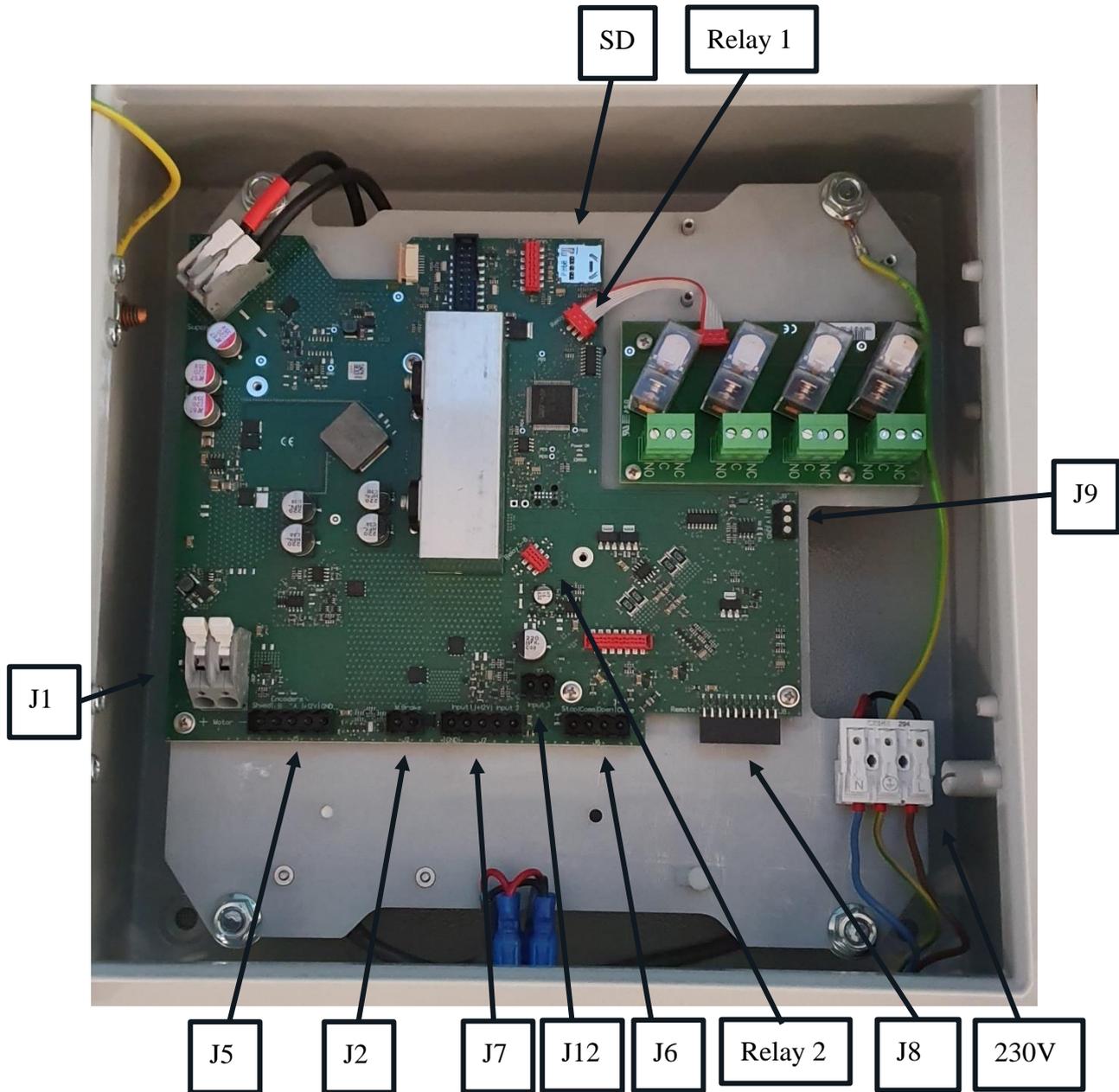


Figure 2 - Overview of the circuit board

- J1:
 - Motor + (red cable)
 - Motor – (black cable)
- J2: Brake (do not use with external motor 120-250Nm)
 - Connection 1 (grey cable)
 - Connection2 (grey cable)
- J5: Encoder
 - Shield: Connection of shield of the cable
 - B: Sensor Signal (green cable)
 - A: Sensor Signal (yellow cable)
 - +12V: Sensor Power (brown cable)
 - GND: Sensor Ground (blue cable)
- J6: Key switch
 - Stop
 - Common
 - Open
 - Close
- J7: Inputs
 - Input 1: Potential free input: configurable
 - Input 2: Potential free input: configurable
- J8: Radio-frequency module (remote control)
- J9: Master/Slave
- J12: Pulse contact
- SD: Slot of SD card
- Relay 1: Connection for relay card 1 (relay 1-4)
- Relay 2: Connection for relay card 2 (relay 5-8)

4.1 Preparation of the Control Box

Place the glands in the provided holes in the control box (see Appendix B for the layout)

- 1x PG20 :
 - Motor cable
- 4x PG16
 - Key Switch
 - 3x extra glands



Figure 3 - Illustration of the bottom of the control box

Attach the (male)connectors onto the corresponding (female) connectors on the PCB.

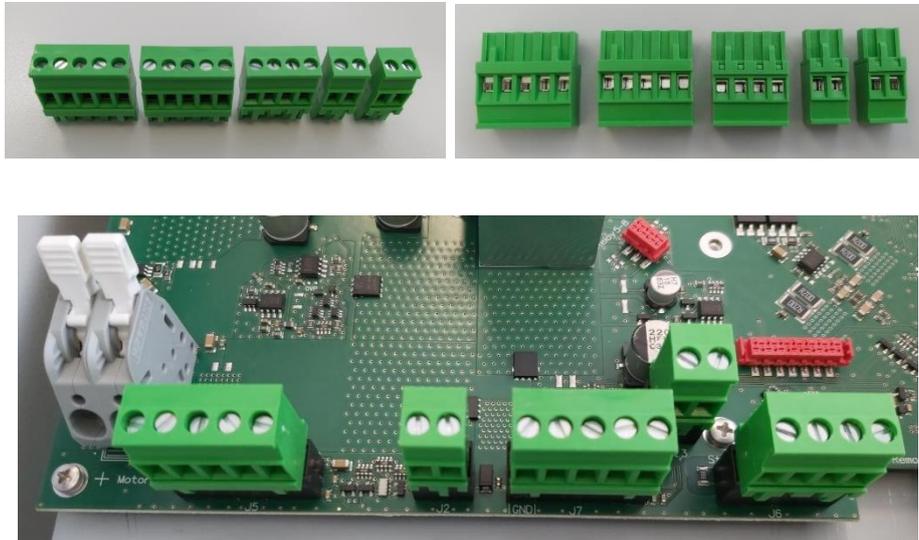


Figure 4 - Illustration of the connectors and their positions on the circuit board

4.2 Connecting the Motor Cable

Follow below steps to complete the preparation of the motor cable

1. Attach the gland (PG20) onto the control box
2. Put the motor cable through the gland and remove the insulation. Keep 10mm of insulation inside the control box.
3. Tighten the gland (PG20).
4. Crimp an electric wire ferrule to every wire and connect these wires according the wiring diagram.

4.3 Wiring Diagrams

4.3.1 Wiring Diagram Scuba 140-250Nm

See Appendix C

4.4 Installation of the Remote Control

The remote control consists of 2 parts:

- Transmitter: SOMloq2 (see Figure 5)
- Standard receiver: SOMup4 (see Figure 56) → Optional: Receiver with external antenna: RX01-868-4 (old version: RMA03-868-4) (See figure 7)



Figure 5 - RF module: Receiver (left) + Transmitter (right)

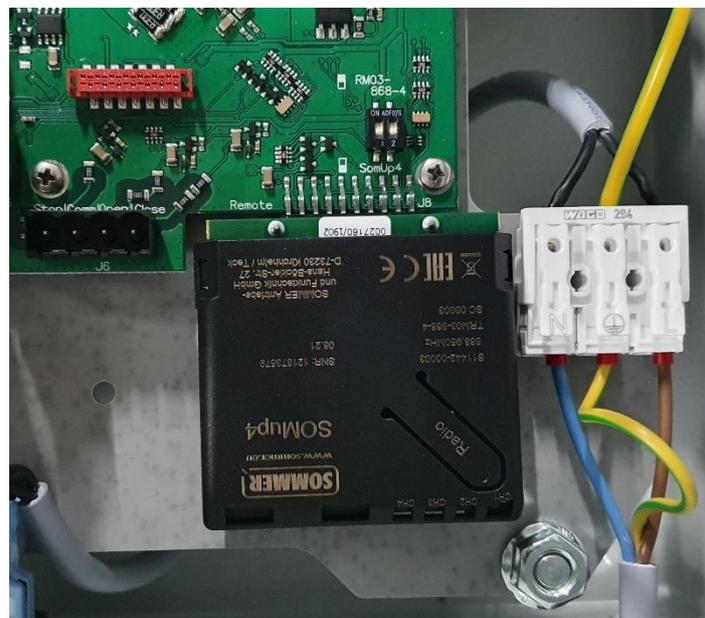


Figure 6 - Connected receiver

Channel	Description
Channel 1 (CH1) Button A	For operating the cover (Open, Stop and Close)
Channel 2 (CH2) Button B	To operate other devices such as pool lights, garden lights, ...
Channel 3 (CH3) Button C	To operate other devices such as pool lights, garden lights, ...
Channel 4 (CH4) Button D	To operate other devices such as pool lights, garden lights, ...

Important!

When using the transmitter with external antenna in order to extend the range, the position of the buttons of the DIP switch above the connector should be changed (see Figure 7).



Figure 7 - SOMup4 (left) and RM03-868-4 with antenna (right)

The remote control is pre-programmed at the factory. As soon as the receiver is plugged onto the PCB, the remote control can be used. The transmitter will vibrate as soon as the signal is recognized by the receiver.

4.5 Installation of the Relay Card

Up to 2 relay cards can be used in the control box:

- Top right: relay card 1: connector for relay card 1 (relay 1-4) – pre-installed
- Bottom right: relay card 2: connector for relay card 2 (relay 5-8)

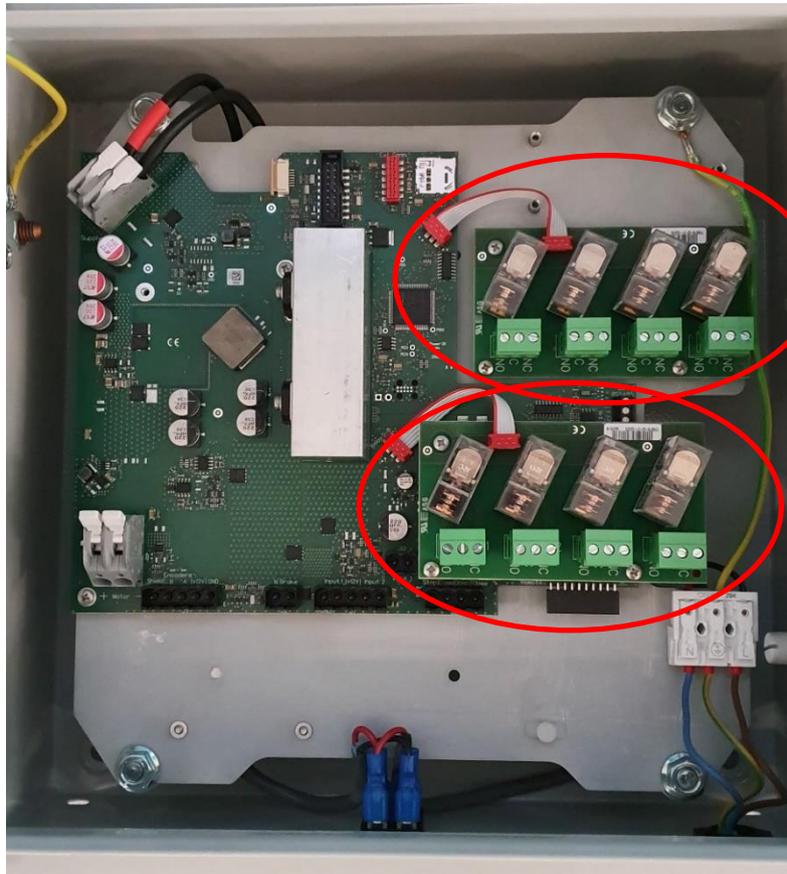


Figure 8 - Position of both relay cards

The relay card set contains the following accessories:

- 3x screws for tightening the relay card
- 3x extensions to mount the relay card onto the circuit board
- 1x connection cable to connect the relay card to the circuit board.

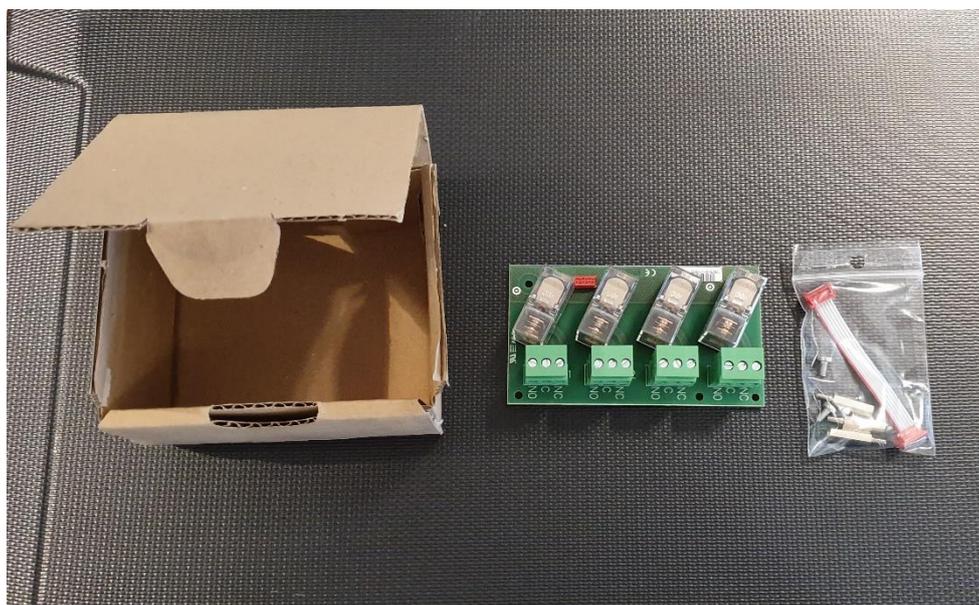




Figure 9 - Mounting kit supplied with the relay card

For the installation of the relay card 1 (top right):

1. Fix the relay card with the screws (3x)
2. Connect PCB and the relay card with the cable

For the installation of the relay card 2 (bottom right):

1. Replace the 3 screws in the bottom right corner by the 3 extensions to secure the PCB
2. Fix the relay card with the screws (3x)
3. Connect the PCB and the relay card using the connection cable

5 Configuration

5.1 Front layout of the Control Box

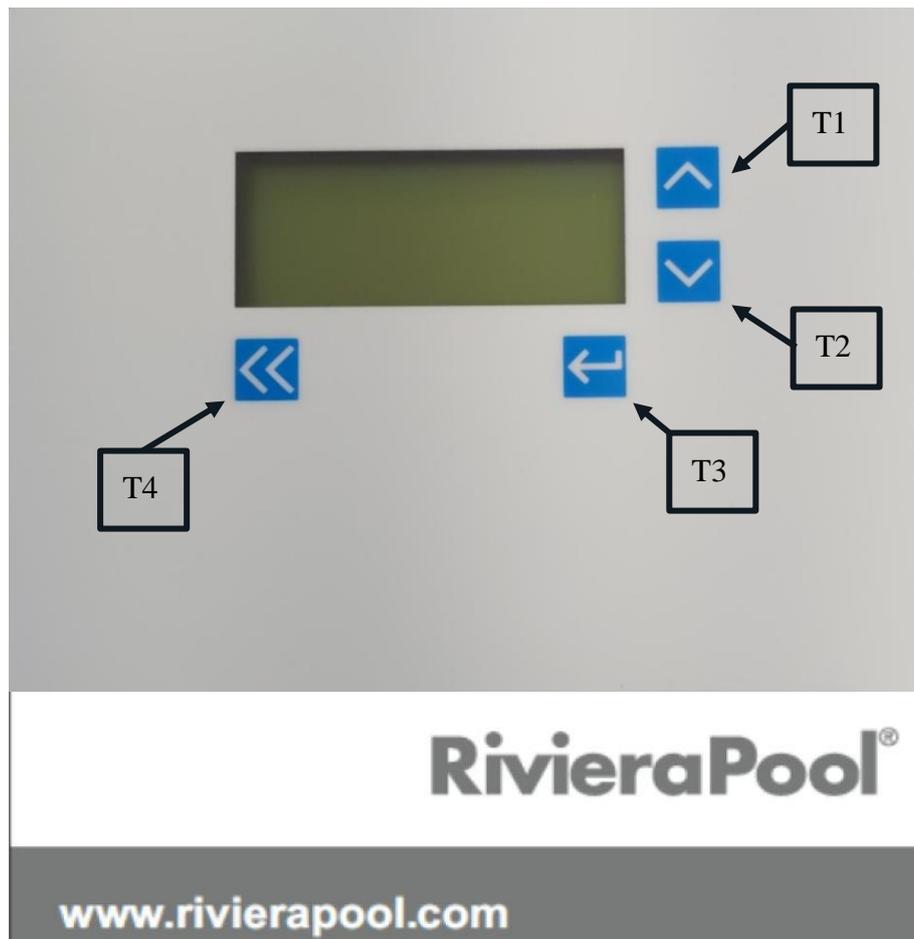


Figure 10 - Front of the control box

5.2 General

- T1 and T2: to scroll through the menu
- T3: To confirm a selection
- T4: Return

5.3 Configuration: First Time

When pressing the power switch of the control box, the display will light up and the program will boot. Following steps will complete the first configuration of the control box.

1. The initialization starts. If an error message appears, you can solve the problem via debug.

		Init	^
		Debug	v
<<		↩	

2. Select the preferred language.

Language			
		Français	^
		English	v
		Deutsch	
<<		↩	

3. Select the motor type.

- A. In case of plastic motor 140 Nm => SCUBA140
- B. In case of stainless steel motor 250 Nm => SCUBA250

Motor Type			
		SCUBA140	^
		SCUBA250	v
		SCUBA500	
<<		↩	

4. Select the number of channels using the T1 or T2 buttons and press T3 to confirm the selection. If selecting 2-Channel (standard), proceed to step 6. By default, both channels (5A and 5B) are connected.

Menu encoder			
		1-Channel	^
		2-Channel	v
<<			↩

5. If selecting 1-Channel, please select which connection should be used (5A or 5B)

1-Channel			
		5A	^
		5B	v
<<			↩

6. The next step is to check the rotation direction of the motor. Press 'Open' (T1) or 'Close' (T2) and visually check if the direction is correct. The arrows in the middle of the screen (highlighted in yellow in the picture below), indicate the direction in which the motor will rotate.
- A. When the direction is correct, press 'Correct' (T3)
 - B. When the direction is incorrect, press 'Change' (T4) and confirm with T3

Direction			
	>>>	Open	^
		Close	v
Change		Correct	
<<			↩

7. To program the end positions, close the cover completely and press "Program" (T3) and "Close" (T2) simultaneously.

End positions			
		Open	^
		Close	v
		Program	
<<			↩

8. Confirm the configured end position ‘Close’ by pressing T3

End positions			
Programmed		Close	^
			v
		Confirm	
<<		↩	

9. Open the pool completely and press ‘Prog’ (T3) and ‘Open’ (T1) simultaneously.

End positions			
		Open	^
		Close	v
		Program	
<<		↩	

10. Confirm the configured end position “Open” by pressing T3

End positions			
Programmed		Open	^
			v
		Confirm	
<<		↩	

11. When the home screen appears, the programming has finished.

[]	Open	^
		Close	v
Stop		Menu	
<<		↩	

5.4 Security Code

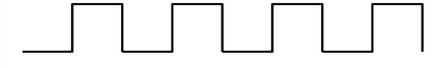
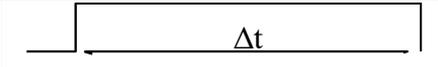
The application should block accidental changes in the settings. This is done through the implementation of a security code. When the installer wants to enter a protected menu, the code will be requested. The installer can use the arrow buttons to select a digit. The enter button confirms the current digit and will then proceed to the next. After input of the last digit, press enter and the code will be verified. You can only enter the menu when the code is correct. The back button can be used to select previous digits. When the first digit is selected, the back button leads you back to the previous active menu.

- **Security Code: 2018**
- Active time: 60 minutes

5.5 Relay

The application has 8 general purpose outputs (relays). Each of these outputs can be configured to switch at a specific time. The outputs can be programmed as follows:

- Pulse: Generate a short, fixed width pulse once
- Toggle: Output is active while the condition is true
- Timer: Generates a pulse with configurable width

Type of Output	
Pulse	
Toggle	
Timer	

Not every combination of function and type is possible. The possible combinations are listed in the table below (X means that the combination is available).

After configuring the endpoints, the outputs with the toggle function will be activated immediately.

	Name	Pulse	Toggle	Timer
F1	Is Open	X	X	X
F2	Is Closed	X	X	X
F3	Is Running	X	X	X
F4	Is Opening	X	X	X
F5	Is Closing	X	X	X
F6	Remote Channel B	X	X	X
F7	Remote Channel C	X	X	X
F8	Remote Channel D	X	X	X
F9	Input 1 Closed	X	X	X
F10	Input 1 Open	X	X	X
F11	Input 2 Closed	X	X	X
F12	Input 2 Open	X	X	X
F13	TopLock		X	
F14	Error 001		X	
F15	Error 002		X	
F16	Error 005		X	
F17	Error 006		X	
F18	Error 007		X	
F19	Error 008		X	
F20	Error 009		X	
F21	Error 010		X	
F22	Error 011		X	
F23	Error 012		X	

Table 1 - Overview of the combinations functions – outputs

Relay number	Function	Description
Relay 1	F3	Switch off the pump during opening/closing of the cover. (APPENDIX D)
Relay 2	F2	Automatically switching off pool lights when the cover is fully closed. (APPENDIX E)
Relay 3	F1	Speed regulation of the pump. Higher speed the moment the cover is open.
Relay 4	F6	Channel B of the remote control (if available).

Table 2 – Outputs programmed by default

The outputs can also be programmed according to your own wishes. In that case follow below steps to configure a relay:

1. Choose 'Menu' by pushing the 'ENTER' button

[]	Open	^
		Close	v
Stop		Menu	
<<		↩	

2. Scroll down to 'I/O settings' with T1 or T2 and press T3 to confirm the selection

Settings		
	General settings	^
	Motor settings	v
	I/O Settings	
<<		↩

3. Scroll down to 'outputs' with T1 or T2 and press T3 to confirm the selection.

I/O settings		
	Inputs	^
	Outputs	v
<<		↩

4. Choose the relay number (relay 1 = output 1; relay 2 = output 2; ...) by pressing T1 or T2. Press T3 to confirm the selection.

OUTPUTS			
F2		OUTPUT 1	^
CLOSED		OUTPUT 2	v
TOGGLE		OUTPUT 3	
<<		←	

5. Select the preferred function by pressing T1 or T2. Press T3 to confirm the selection.

OUTPUT 1/2/...			
	F2	Closed	^
	F3	Running	v
	F4	Opening	
<<		←	

6. Choose the type of signal by pressing T1 or T2. Press T3 to confirm the selection.

OUTPUT 1/2/...			
F1		PULS	^
IS OPEN		TOGGLE	v
		TIMER	
<<		←	

7. If “timer” has been selected in the previous step, define the duration of the relay switch.

TIMER			
		+	^
TIME		3 s	v
		-	
<<		←	

8. Press 3x T4 to go to the home screen.

[-----]	Open		^
	Close		v
Stop	Menu		
<<		←	

5.6 Overview Errors

Code	Name	Explanation
001	Runtime	Maximum time has been exceeded
002	Stop engaged	Contact 8-9 not closed
003	Input 1	Motor protection (Contact 10-11)
004	Input 2	Motor protection (Contact 12-13)
005	Overload	Maximum motor current exceeded
006	Encoder error	No pulses or wrong number of pulses
007	No current	No pulses and no motor current > motor is not turning > motor not connected to control box OR motor output on PCB not correct.
008	Overload lock	Maximum motor current exceeded because of locking device not opening
009	Temperature	Maximum temperature of PCB has been reached
010	Position error	'Close' and 'Open' position overlap
011	Communication	Communication error between master and slave
012	Key input error	Pulses are detected on the key input (power supply 230V is used)
013	Undervoltage	The supply voltage was below limit
014	Overload	Maximum motor current exceeded allowed by hardware (HW protection)
015	Incompatibility	Function incompatible
016	Slave error	Replicated error from the slave
017	Slave not ready	Slave not ready for cover movement

Table 3 - Overview errors

6 Default Settings

Functions:

- Language: English
- Safe mode: Off
- Motor speed:
 - When closing: 75% of the nominal speed, with a 20% take off run
 - When opening: 100% of the nominal speed
- I/O:
 - Output 1-8
 - Output 1: F3: Cover is running
 - Output 2: F2: Cover is closed
 - Output 3: F1: Cover is open
 - Output 4: F6: Channel B of remote control
 - Output 5: Off
 - Output 6: Off
 - Output 7: Off
 - Output 8: Off
 - Input 1-2
 - Input 1: Off
 - Input 2: Off

Appendix A Wall Mounting Brackets – Manual



AW/AWS

Ref.	Pic.	
A		4
B		4
C		4

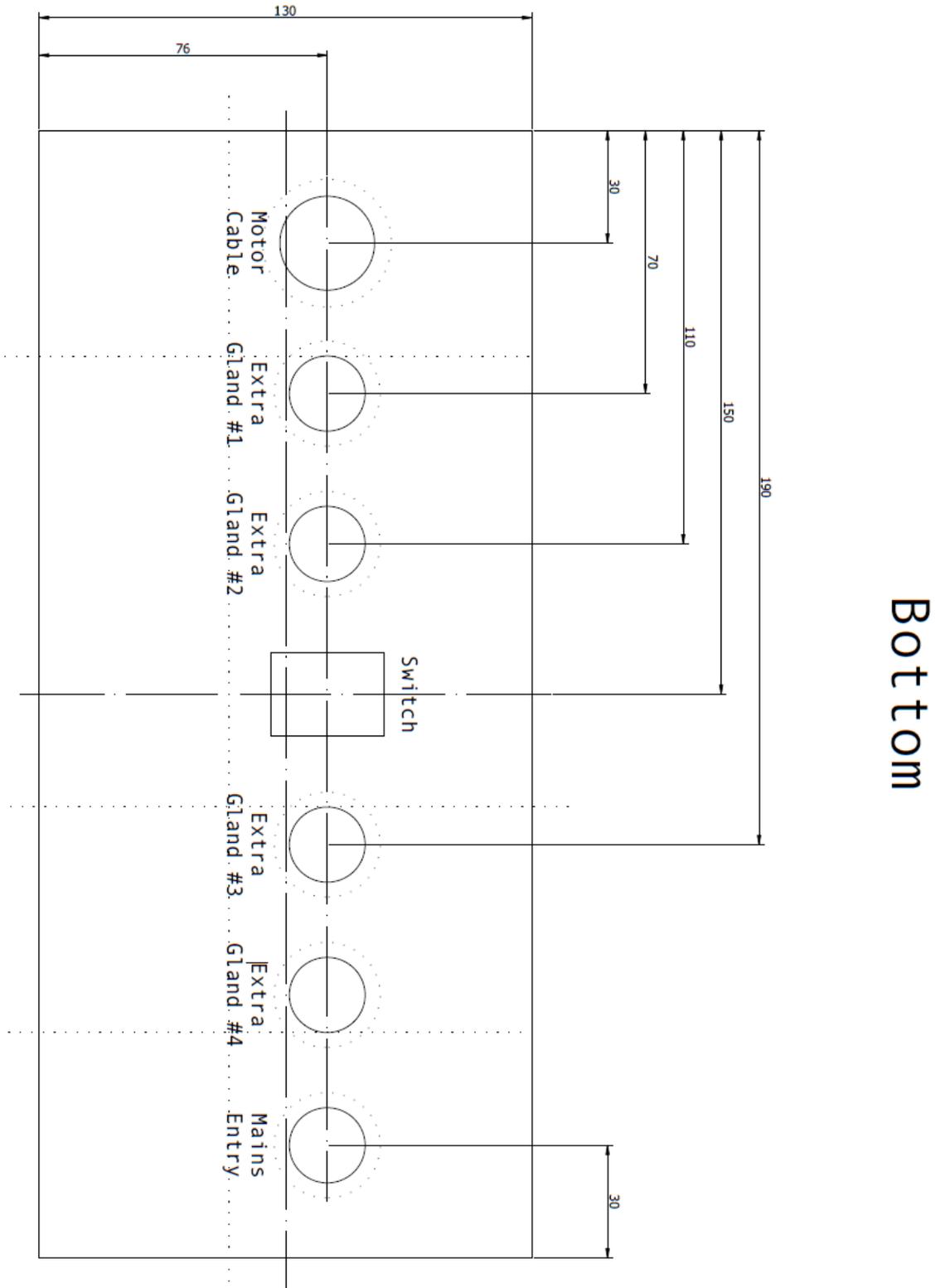
Machining is required for stainless steel enclosures only.

Ref.	Pic.	
A		4
B		4
C		4

Machining is required for stainless steel boxes only.

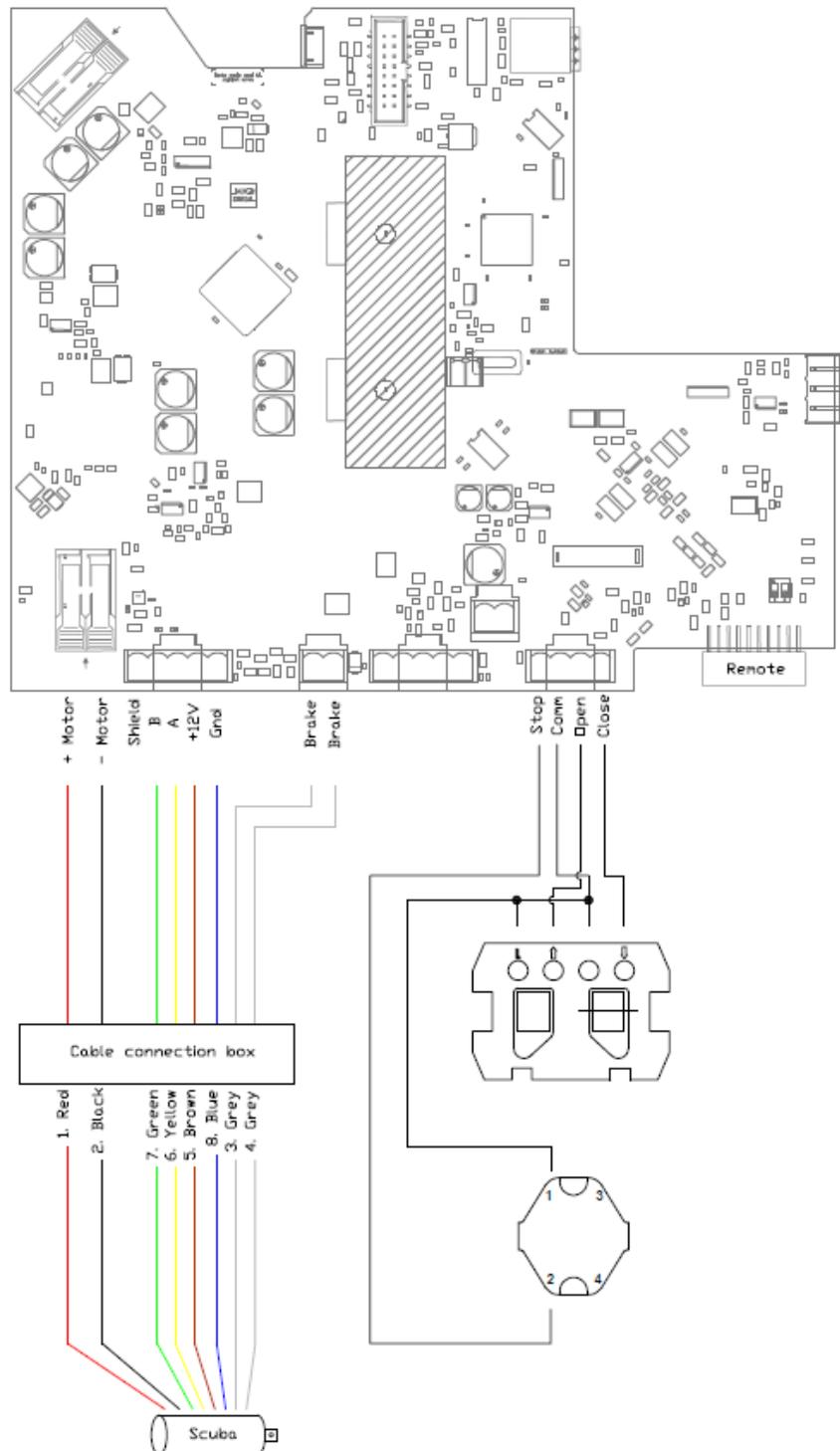
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Appendix B Layout of the Bottom of the control Box

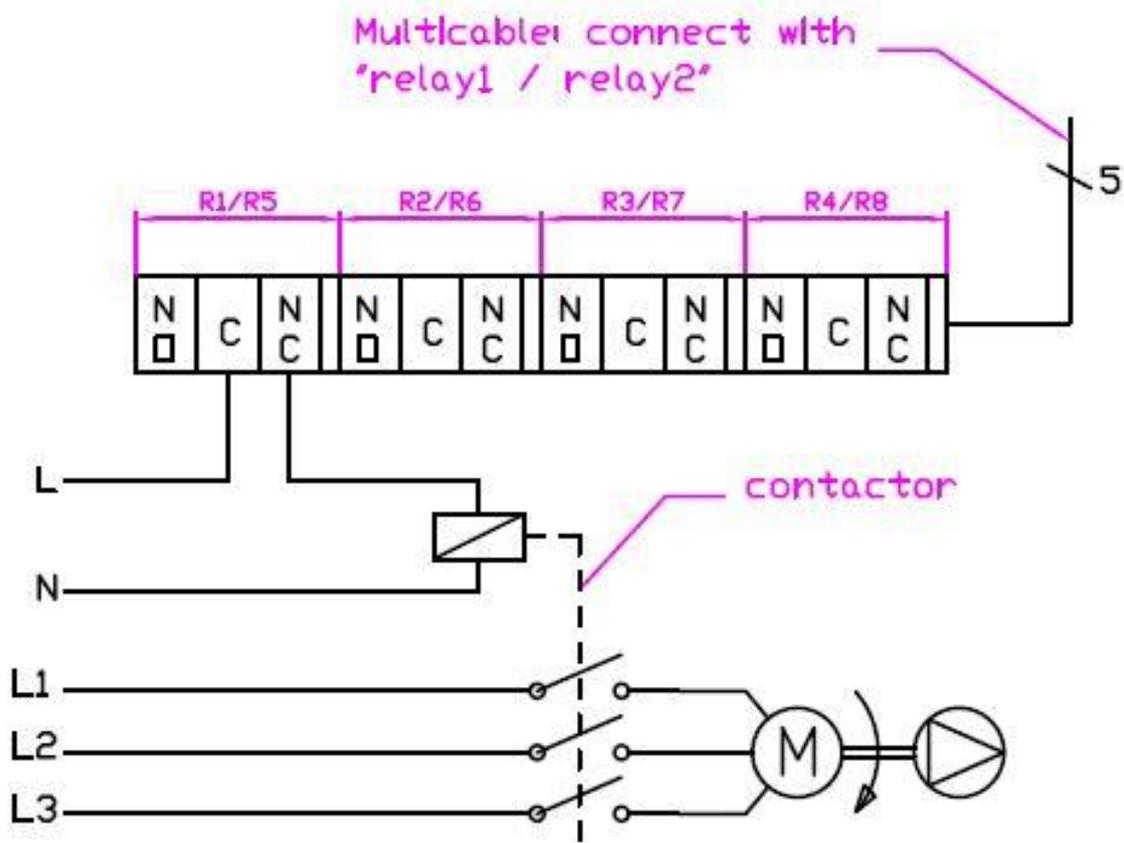


Bottom

Appendix C Wiring Diagram for Scuba 140-250 Nm



Appendix D Switch off the pump during movement of the cover



Appendix E Switch off pool lights automatically

